

[Translation]
 WRITTEN OPINION

2. Documents and Explanations

Document 1: JP 10-297226 A (Continental Aktien Gesellschaft)

1998.11.10, Claim 9, Claim 13, Paragraph [0019], Figs. 1-3

Document 2: JP 6-31226 A (Showa Aluminum Kabushiki Kaisha)

1994.11.08, Full text, Fig. 6

Document 3: JP 6-312229 (Showa Aluminum Kabushiki Kaisha)

1994.11.08, Full text, Figs. 1-8

Document 4: JP 8-24969 A (Kabushiki Kaisha Nihon Seikoshō)

1996.01.30, Full text, Fig. 1

Document 5: JP 7-184350 A (Kabushiki Kaisha Hitachi Seisakushō)

1995.07.21, Paragraph [0062], Fig. 23

Document 6: JP 2001-130600 A (Dainihon Insatsu Kabushiki Kaisha)

2001.05.15, Paragraph [0017]

Document 7: EP 857622 A1 (LEMFORDER METALLWAREN AG)

1998.08.12, Fig. 4

Document 8: JP 54-59702 A (Yokohama Gomu Kabushiki Kaisha)

1979.05.14, Fig. 1, Fig. 2

Document 9: JP 3243291 B2 (Kabushiki Kaisha Burijisuton)

2001.10.19, Paragraph [0008]

The invention as set forth in Claims 1, 3, 4, 6, 10, and 17 have no inventive step over the inventions disclosed in Documents 1-4. Document 1 discloses using aluminum alloy for a run-flat tire support. Since electromagnetic formation as an aluminum forming method is a well-known forming method as disclosed in documents 2-4, it is obvious to a person having ordinary skill in the art to form the support described in Document 1 by means of electromagnetic formation.

The inventions as set forth in Claims 2 and 11 have no inventive step over the inventions disclosed in Documents 1-4, 8, and 9. Documents 8 and 9 disclose that holes are formed in the shell component.

The invention as set forth in Claim 5 has no inventive step over the inventions disclosed in Documents 1-4. The ratio of the maximum and the minimum exterior

diameter of the shell component is a matter of design that can be arbitrarily made by a person having ordinary skill in the art.

The inventions as set forth in Claims 7 and 9 have no inventive step over the inventions disclosed in Documents 1, and 5-7. A structure provided with ribs that are honeycomb-shaped in section is well-known as a reinforcement structure, and therefore it is obvious to a person having ordinary skill in the art to provide the above reinforcement structure on the run-flat tire support disclosed in Document 1.

The invention as set forth in Claim 8 has no inventive step over Documents 1, and 5-9. Documents 8 and 9 disclose that holes are formed in the shell component.

The inventions as set forth in claims 12-15 have inventive step over the documents cited in the International Search Report. None of the documents cited in the International Search Report discloses forming holes or ribs on the support during expansion deformation in electromagnetic formation, and it is not obvious to a person having ordinary skill in the art.

The invention as set forth in Claim 16 has no inventive step over the inventions disclosed in Documents 1-4. It is a well-known technical matter to provide exhaust holes when carrying out electromagnetic formation.

The inventions as set forth in Claims 18-20, 23, and 24 have no inventive step over the inventions disclosed in Documents 1, 8, and 9. Documents 8 and 9 disclose providing multiple holes on the run-flat tire support.

The inventions as set forth in Claims 21 and 22 have no inventive step over the inventions disclosed in Documents 1, 8, and 9. It is a well-known technical matter that for the purpose of achieving an increased physical adherence strength between two members, one of the members is provided with holes.